

REMARKS

The Office Action of January 22, 2008 has been reviewed and the comments therein carefully considered. This application has been amended. Specifically, the limitation which previously appeared in dependent claim 14 has now been incorporated into independent claims 13 and 23 and claim 14 has been cancelled. Further, claim 15 has been amended to clarify what is meant by "unique," as requested in the Office Action. Support for this amendment can be found throughout the specification, claims and drawings as originally filed, such as in the paragraph beginning on line 15 of page 3 of the specification. Thus, no new matter has been added by this amendment. Consequently, claims 13 and 15-24 are currently pending.

Claim Objections

The Office Action objects to the numbering of the claims and has renumbered the claims which Applicants refer to as claims 13-24 as claims 14-25. However, Applicants respectfully disagree with this action. The claims which appeared in the original International Application were numbered 1-13. However, Applicants amended these claims under Article 34 of the PCT and replaced these claims with amended claim sheets containing claims 1-12. A copy of these amended claim sheets are annexed to the International Preliminary Report on Patentability issued on July 22, 2005, a copy of which was provided to the USPTO upon entering the national stage. Consequently, Applicants believe that 12 claims were pending upon entrance into the national stage, which explains why the Preliminary Amendment filed concurrently with the national stage application only cancelled claims 1-12 rather than claims 1-13. Thus, the numbering of the claims which appears in the Preliminary Amendment is correct. Applicants will continue to refer to the claims by the numbering from the Preliminary Amendment but, for convenience, will also refer to the claims by the numbers assigned to them in the Office Action, which will appear in parenthesis.

Rejection Under 35 U.S.C. § 112, second paragraph:

Claim 15 (16) stands rejected under 35 U.S.C. § 112, second paragraph for indefiniteness. Specifically, the phrase "unique manner" has been objected to as vague and indefinite. In response, Applicants have amended this claim to eliminate the word "unique"

and clarify that the disrupting means is adapted to disrupt the energy field in a manner that distinguishes it from other disrupting means in the system. Applicants believe this claim, in its current state, is sufficiently definite within the meaning of 35 U.S.C. § 112, second paragraph.

Rejections Under 35 U.S.C. § 103(a)

Claims 13, 15-18 and 20-24 (14, 16-19 and 21-25) stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lastinger et al. (U.S. Patent No. 6,552,661) in further view of Horwitz et al. (U.S. Patent No. 6,617,962). Additionally, claim 14 (15) stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Lastinger in view of Horwitz and in further view of Hartmann (U.S. Pub. No. 2003/0142691). Finally, claim 19 (20) stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Lastinger in view of Horwitz and in further view of Orenstein et al. (U.S. Patent No. 5,976,038). Applicants respectfully traverse each of these rejections.

Lastinger is directed to a zone-based identification system that uses radio frequencies to determine whether a specific object is located within a certain zone. The system includes a receiver and a plurality of identification devices which are attached to different objects within the system. As admitted in the Office Action, Lastinger does not teach or suggest using pulse beams having multiple pulse streams oriented substantially parallel to one another.

Horwitz is directed to a reader for a radio-frequency identification (RFID) system that is capable of simultaneously reading multiple tags operating at different frequencies. The reader includes a different module for each of the available frequencies. Each of the modules receives a return signal from a corresponding RFID tag and converts the signal into a pulse signal which can be interpreted and analyzed by the reader. Horwitz is cited in the Office Action as teaching at least two pulse streams which are oriented parallel to one another for the purpose of providing the reader with multi-frequency capacity. However, as stated in the Office Action, Horwitz, whether alone or in combination with Lastinger, fails to teach or suggest the use of pulse beams comprising nine pulse streams which are oriented substantially parallel to one another.

Hartmann is directed to a propagated signal using multiple pulses distributed among multiple time slots for transferring larger amounts of digital data at a faster rate.

Hartmann is cited in the Office Action for his discussion, in paragraphs 28-29 thereof, of a pulse beam that contains nine pulse streams for the benefit of creating as many as 35,750 different data states. However, the time slots described by Hartmann take place consecutively in time. Further, each time slot comprises a maximum of one pulse. Therefore, because of the arrangement of the pulses within the time slots, the pulses also occur consecutively in time rather than parallel or even substantially parallel in time.

Orenstein is directed to an apparatus for detecting whether an object, and specifically a playing ball, has crossed a determinative line. The apparatus includes an antenna with a first and second antenna pattern and a ball outfitted with a transmitter which emits a signal that is received by the antenna. The transmitter can be disposed in the ball or be composed of a reflective coating which illuminates the ball with energy which is then reflected toward the antenna. The Office Action relies on Orenstein solely for the disclosure of this reflective coating.

Contrary to the teachings of the cited art, claim 13 (14) is directed to a system of localizing articles of sports equipment using an energy field generated by transmitting pulse beams comprising nine pulse streams which are oriented substantially parallel to one another. Similarly, claim 23 (24) is directed to a method for localizing sports equipment including the step of generating an energy field formed by multiple pulse beams, where each pulse beam comprises nine pulse streams oriented at least substantially parallel to each other. Applicants have unexpectedly discovered that by dividing the pulse signal into a plurality of parallel pulse streams, and particularly nine pulse streams, the pulse streams do not have to closely follow one another to increase the data transfer speed. (See Specification, page 2, line 25 through page 3, line 3). This arrangement also enhances the reliability of the system, allows for less expensive detection means to be used and eliminates the need for error correction systems. (*Id.*)

The unique features of Applicants invention, and particularly the limitation that the pulse beams are split into nine pulse streams which are oriented at least substantially parallel to one another, is not taught or suggested in the cited art. Particularly, the combination of Lastinger and Horwitz fails to teach this arrangement for the reasons discussed herein, which are consistent with the statements regarding the deficiencies of these references set forth in the Office Action. Hartmann, while discussing a system with nine pulses, teaches that these pulses are oriented consecutively with respect to one another, which

is distinguishable from Applicants' invention where the multiple pulse streams are disposed at least substantially parallel to one another. In fact, Hartmann teaches away from such a parallel orientation. Orenstein also fails to cure this deficiency with Lastinger, Horwitz and Hartmann.

Consequently, the teachings of the cited references, whether taken alone or in combination, are insufficient to render obvious Applicants' claims, as now presented. Applicants thus submit that the claims are patentable over these references.

Double Patenting

Finally, each of the pending claims stands provisionally rejected under a non-statutory obviousness-type double patenting rejection based on co-pending Application No. 10/552,547.

Applicants submit herewith a Terminal Disclaimer over Application No. 10/552,547, which obviates this double patenting rejection.

CONCLUSION

For all of the foregoing reasons, Applicants submit that pending claims 13 and 15-24 (14 and 16-25) are patentable over the cited documents and are in condition for allowance. Accordingly, reconsideration of the rejections and allowance of pending claims 13 and 15-25 (14 and 16-25) are respectfully requested. Applicants also request that the correct claim numbering be acknowledged in future communications.

Respectfully submitted,

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